

Appendix B

Meteorological Data

This section contains meteorological data derived from various regulatory and non-regulatory sites. The data provides a comparative analysis of winds speed, wind direction, wind gusts and concentration data. Please note that meteorological instruments measure at different heights, and at different time intervals. By taking, the actual time of measurement and assuring that all data represented is in Pacific Standard Time (PST) there is uniformity of the data. In addition, not all stations measure at the exact same time, i.e. measurements at 053 and 056 therefore, comparisons are measurements within a 60-minute period. While there may be some overlapping and slight differences the comparative analysis provides the reader with a better understanding of the regional effect of the Exceptional Event.

FIGURE B-1
METEOROLOGICAL AND AIR QUALITY SITES REFERENCED IN THIS DOCUMENT

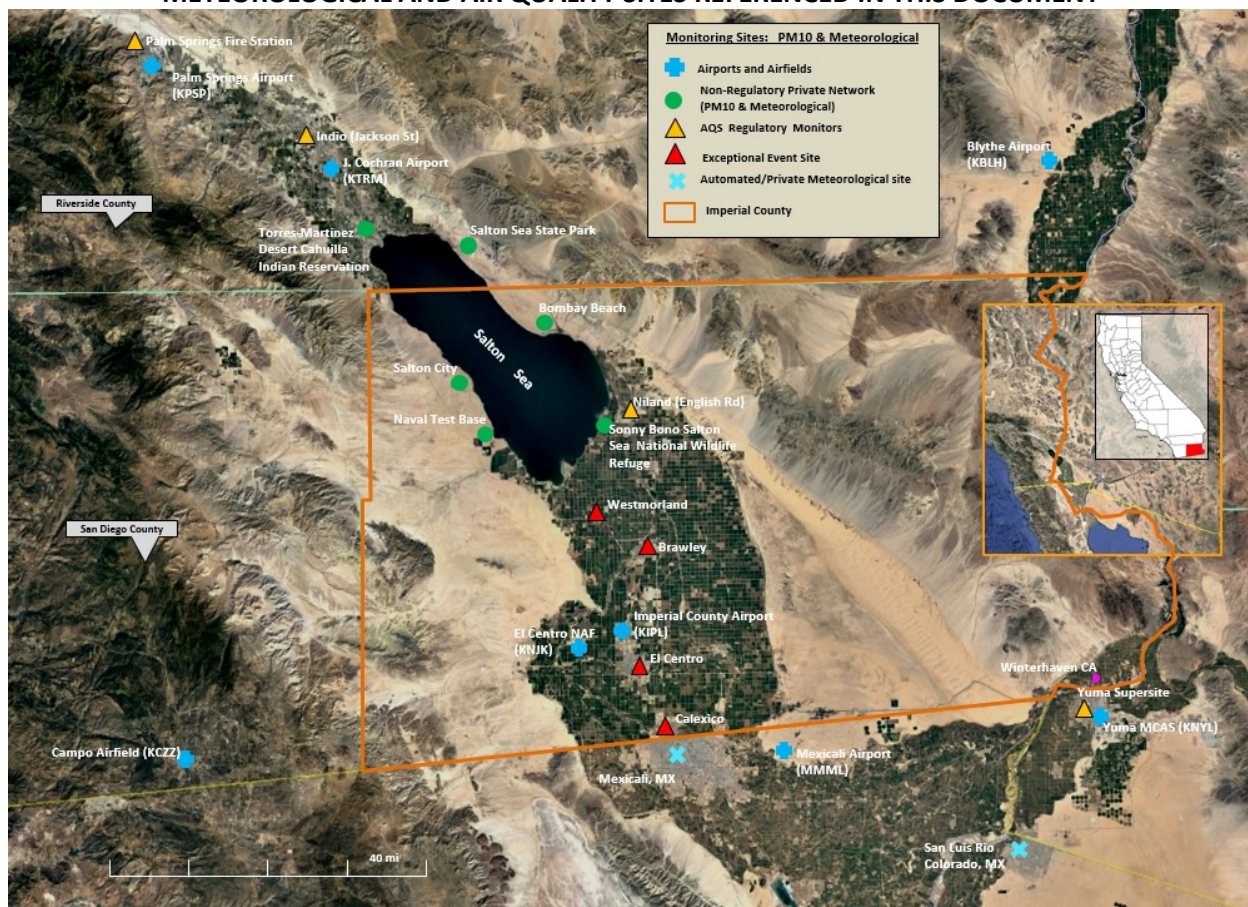


Fig. B-1: A collection of meteorological and air quality sites referenced in this document. Base map from Google Earth.

IMPERIAL COUNTY SITES FIGURES B-2 THROUGH B-9

FIGURE B-2
IMPERIAL COUNTRY AIRPORT (KIPL)
WIND SPEED (AVERAGES), GUSTS & DIRECTION

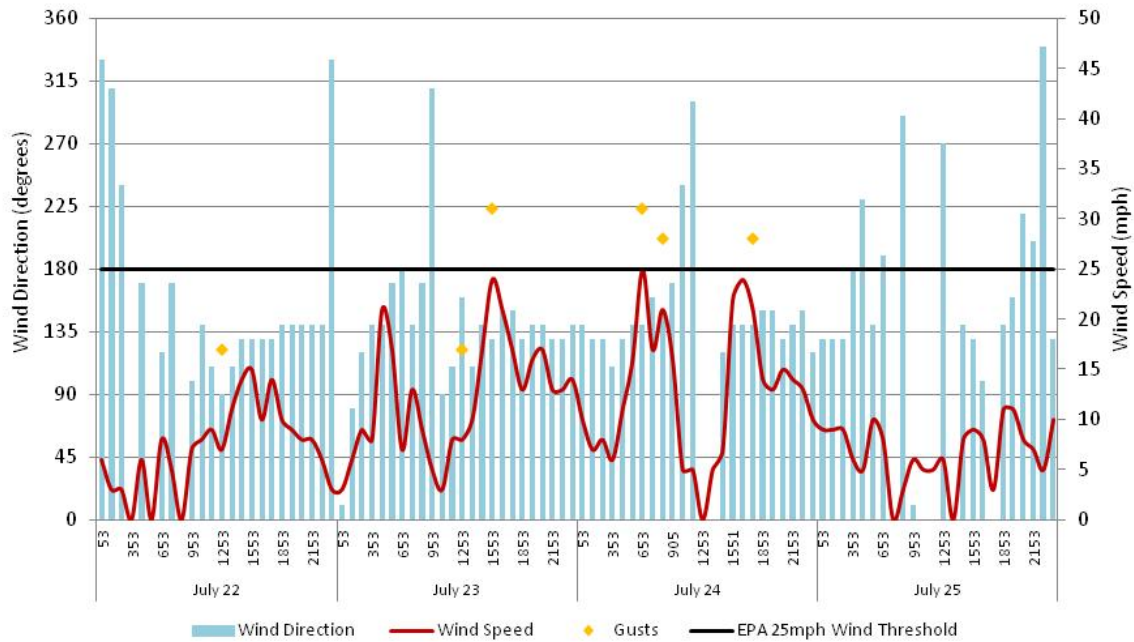


FIGURE B-3
IMPERIAL COUNTRY AIRPORT (KIPL) WIND ROSE – JULY 23 AND JULY 24

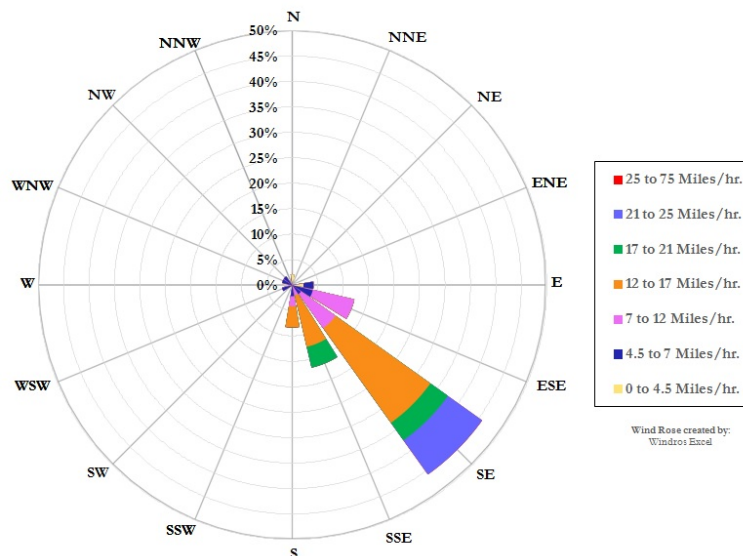


Fig. B-3: Imperial Airport meteorological data for July 23 and July 24 shows that southeast winds were just under 25 mph on July 23, but equaled it on July 24. Wind data from the NCEI's QCLCD system.

FIGURE B-4
EL CENTRO NAF (KNJK)
WIND SPEED (AVERAGES), GUSTS & DIRECTION

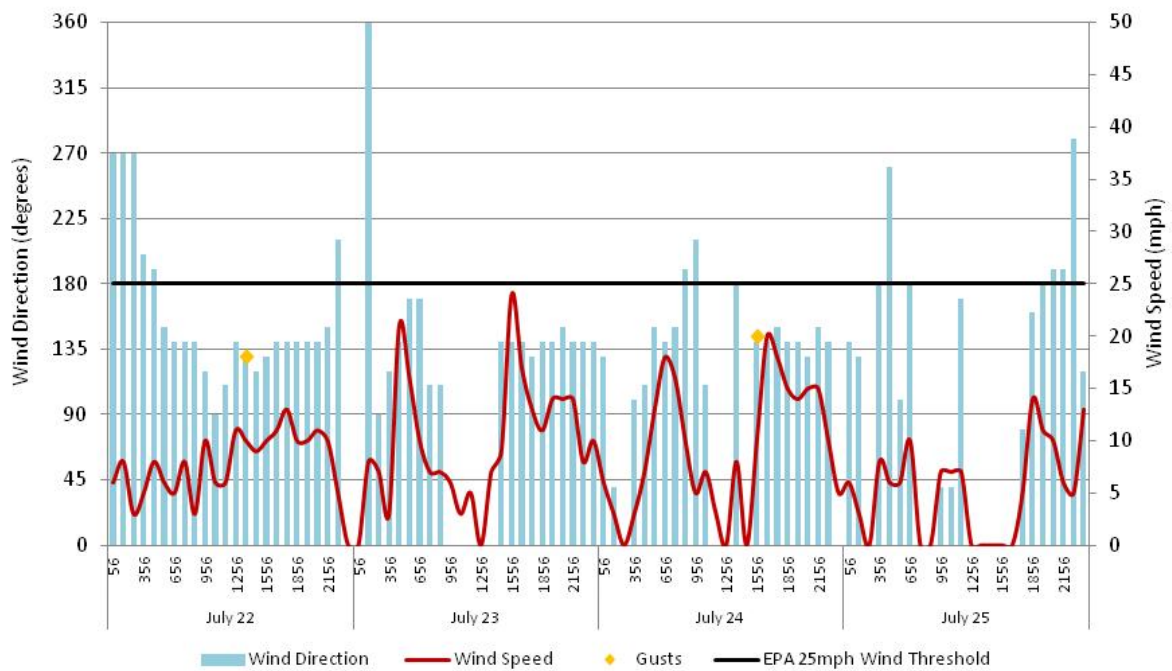
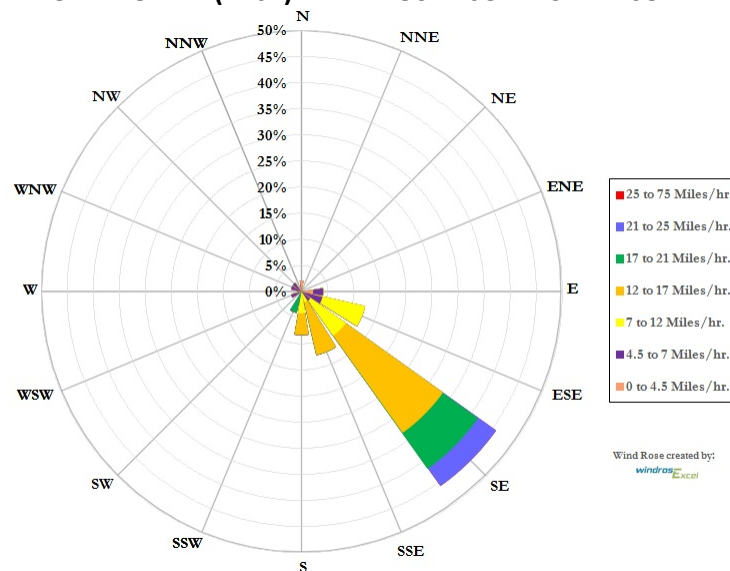
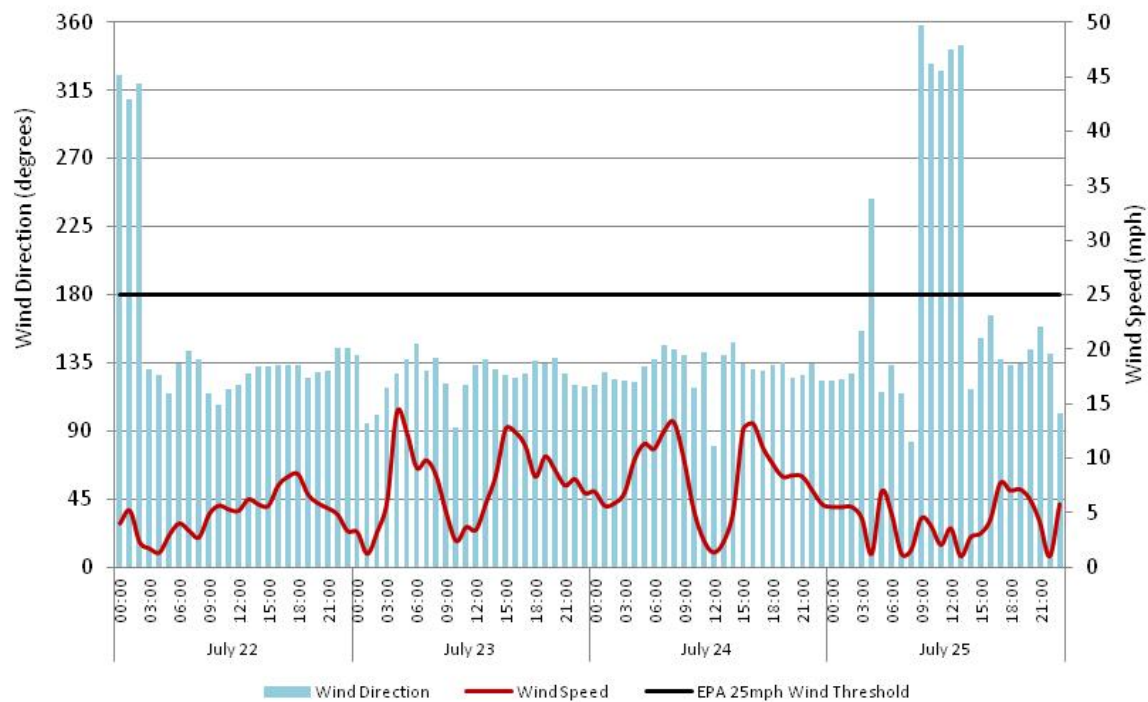


FIGURE B-5
EL CENTRO NAF (KNJK) WIND ROSE – JULY 23 AND JULY 24

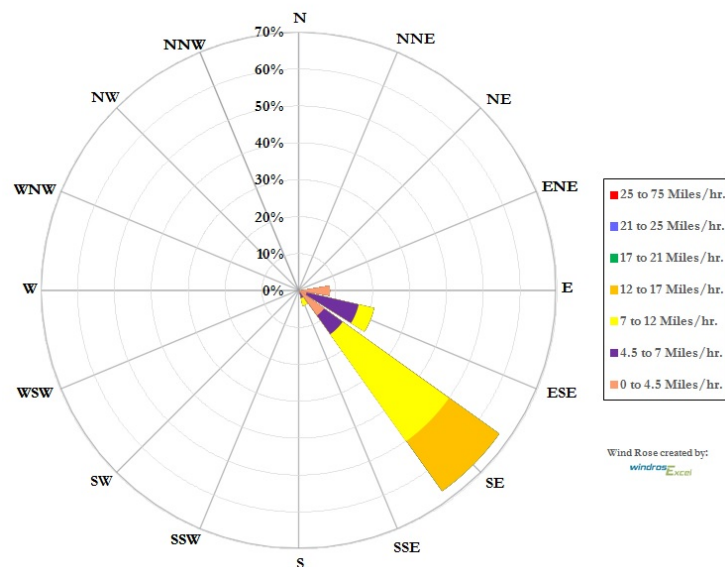


Figs. B-4 & B-5: El Centro NAF meteorological data for July 23 and July 24 shows that southeast winds did not reach 25 mph on either days. Wind data from the NCEI's QCLCD system.

**FIGURE B-6
CALEXICO
WIND SPEED & DIRECTION**

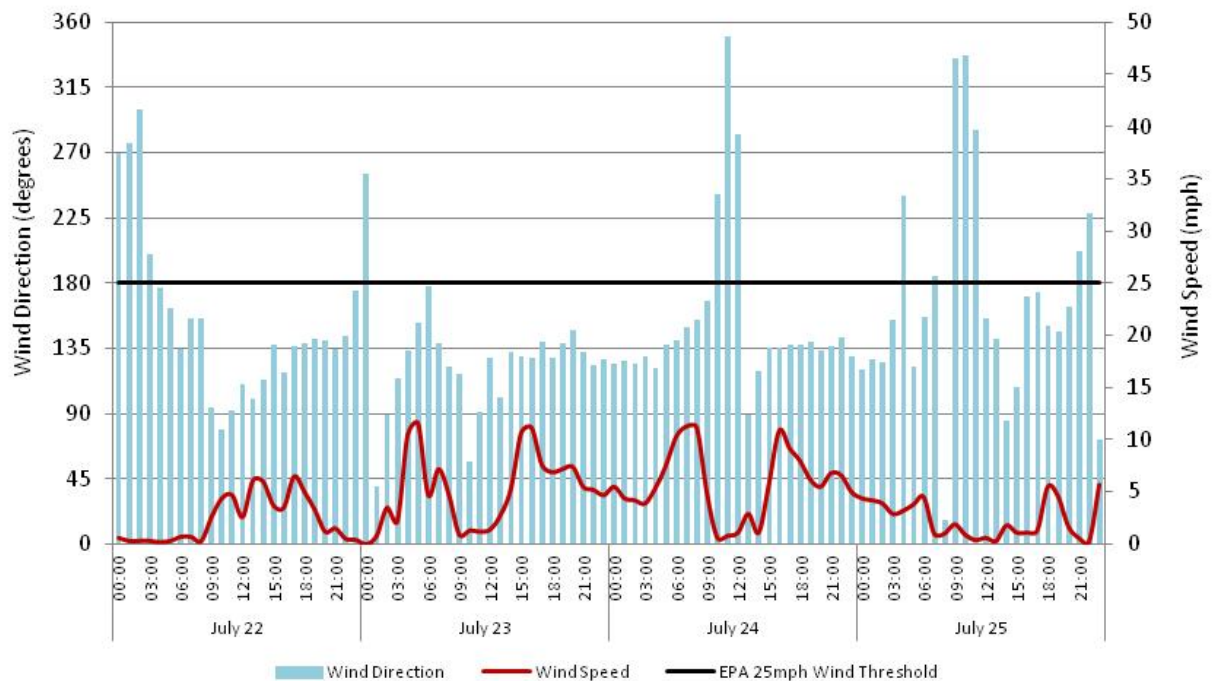


**FIGURE B-7
CALEXICO WINDROSE – JULY 23 AND JULY 24**

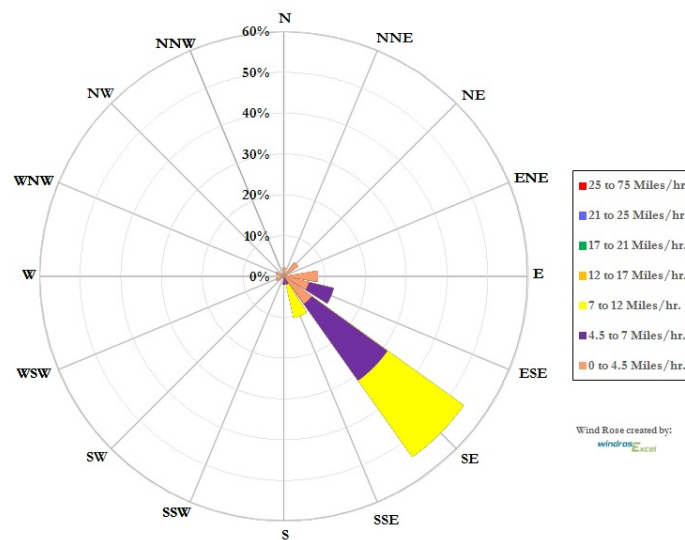


Figs. B-6 & B-7: Calexico meteorological data for July 23 and July 24 shows a distinct southeast direction. Wind data from the EPA's AQS data bank.

FIGURE B-8
EL CENTRO (9TH St)
WIND SPEED & DIRECTION



FIGURES B-9
EL CENTRO (9TH ST) WIND ROSE – JULY 23 AND JULY 24



Figs. B-8 & B-9: El Centro station meteorological data for July 23 and July 24 shows a distinct southeast direction. Wind data from the EPA's AQS data bank.

FIGURE B-10
NILAND (ENGLISH RD)
WIND SPEED & DIRECTION

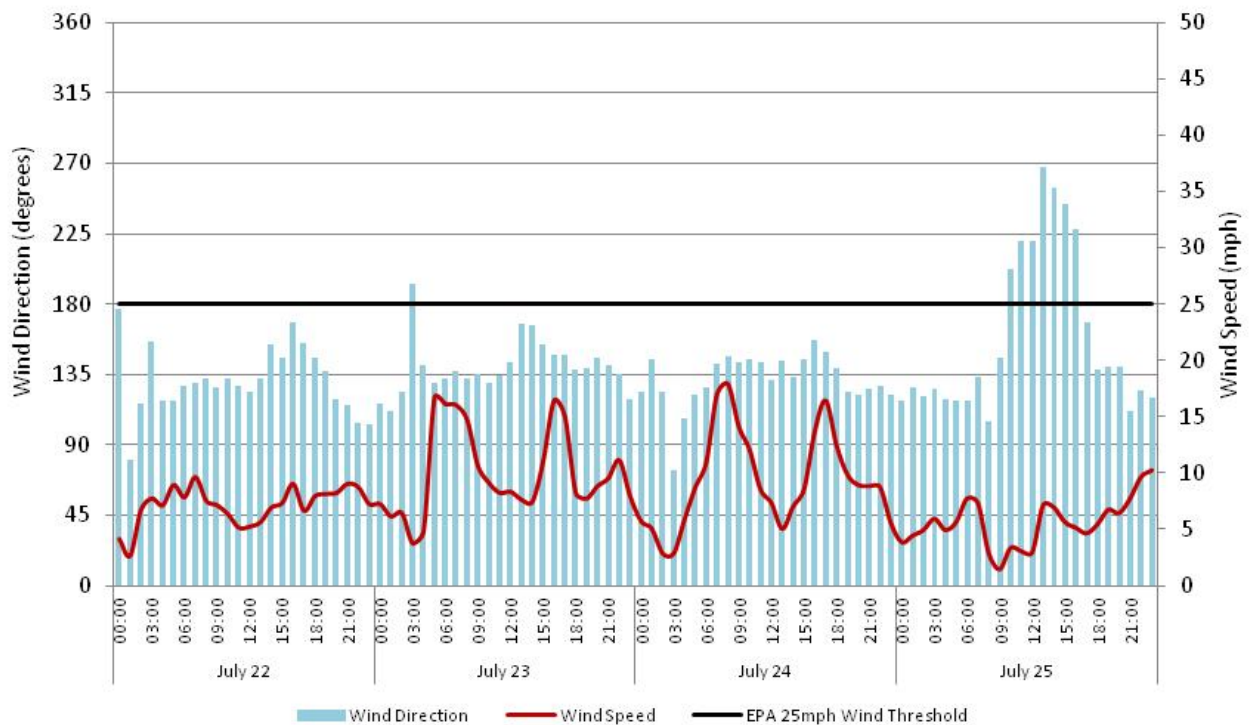
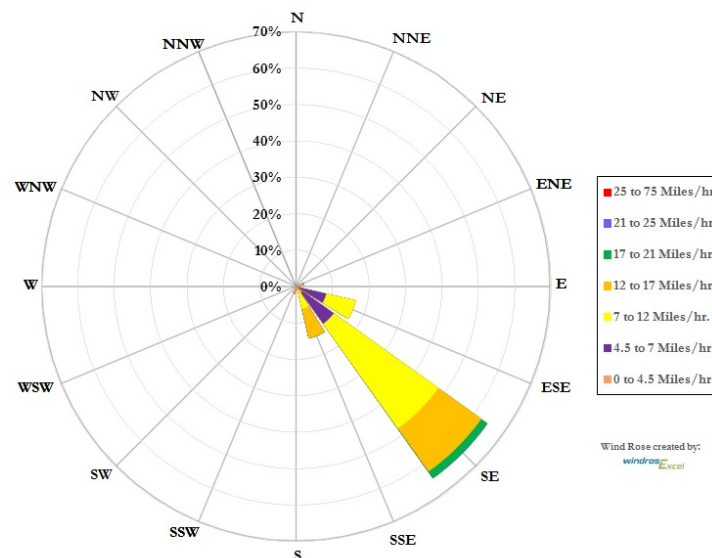


FIGURE B-11
NILAND (ENGLISH RD) WINDROSE – JULY 23 AND JULY 24



Figs. B-10 & B-11: Niland wind data for July 23 and July 24 shows a distinct southeast direction. Wind data from the EPA's AQS data bank.

FIGURE B-12
WESTMORLAND
WIND SPEED & DIRECTION

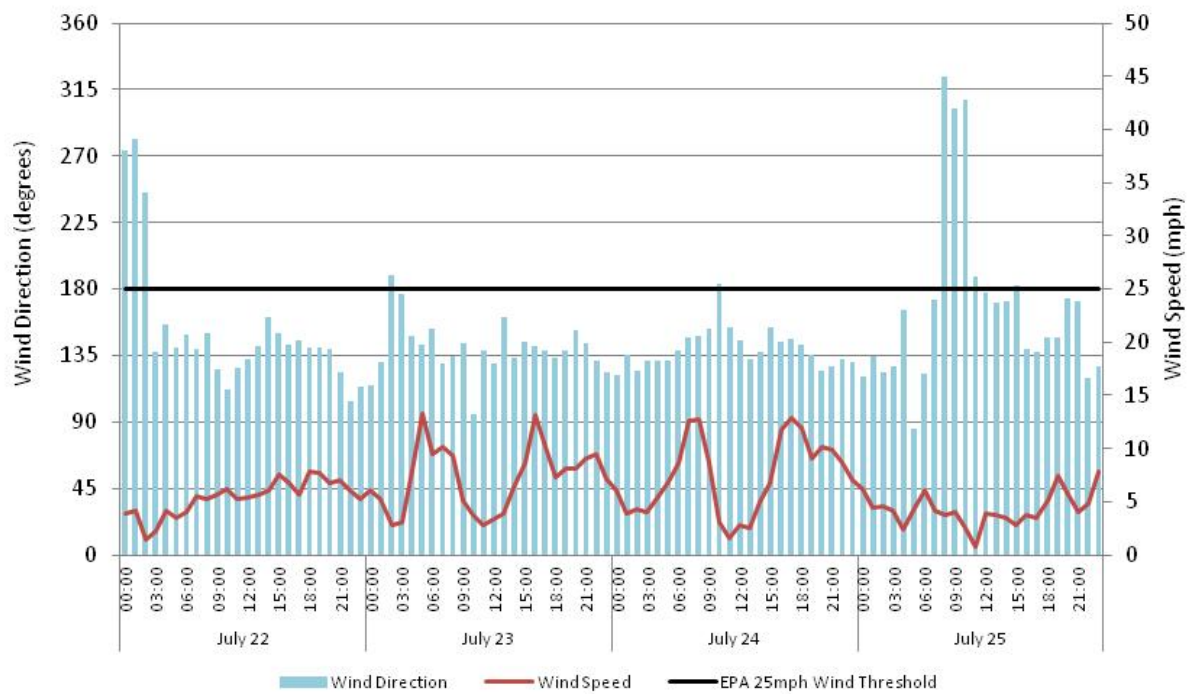
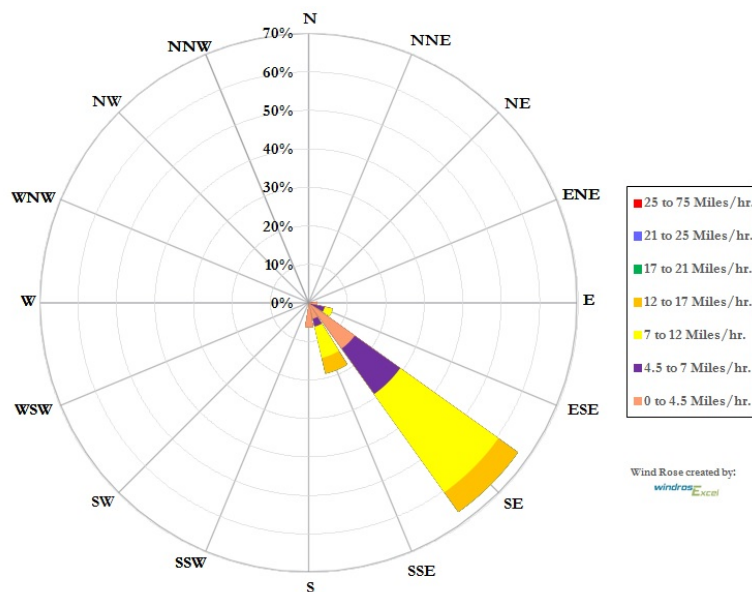


FIGURE B-13
WESTMORLAND WINDROSE – JULY 23 AND JULY 24



Figs. B-12 & B-13: Westmorland station meteorological data for July 23 and July 24. Shows a distinct southeast direction. Wind data from the EPA's AQS data bank.

EASTERN RIVERSIDE COUNTY SITES

FIGURE B-14
BLYTHE AIRPORT (KBLH)
WIND SPEED (AVERAGES), GUSTS & DIRECTION

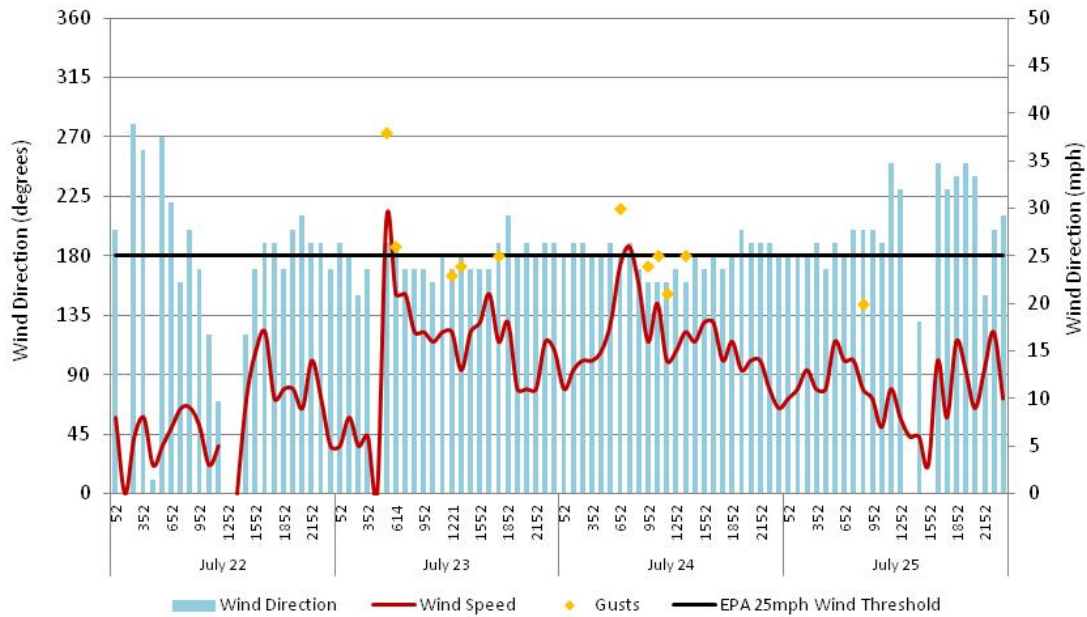


Fig. B-14: Wind data from the NCEI's QCLCD system.

FIGURE B-15
JACQUELINE COCHRAN REGIONAL AIRPORT (KTRM)
WIND SPEED (AVERAGES), GUSTS & DIRECTION

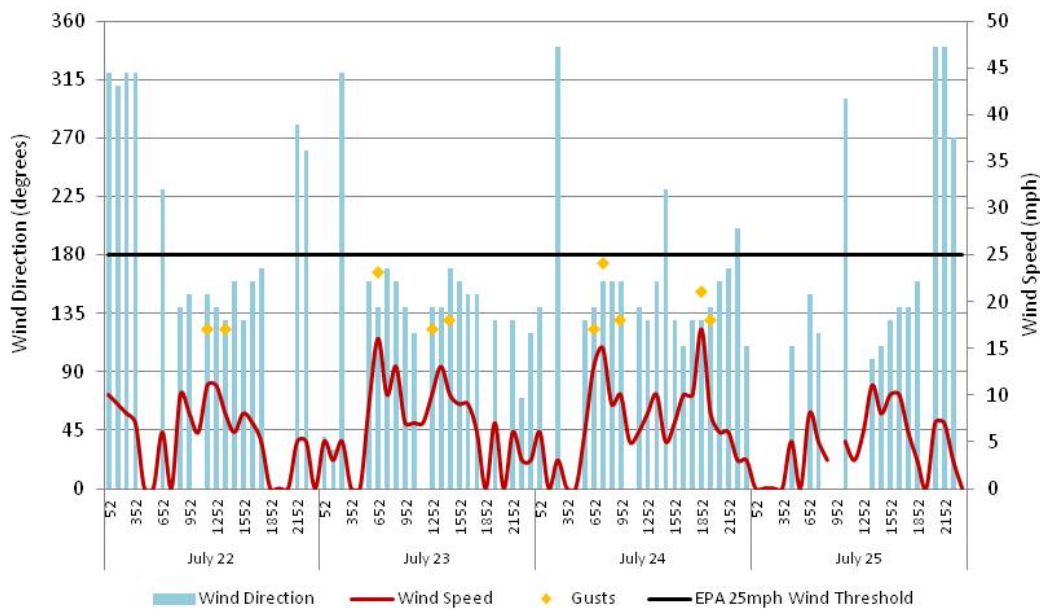


Fig. B-15: Wind data from the NCEI's QCLCD system.

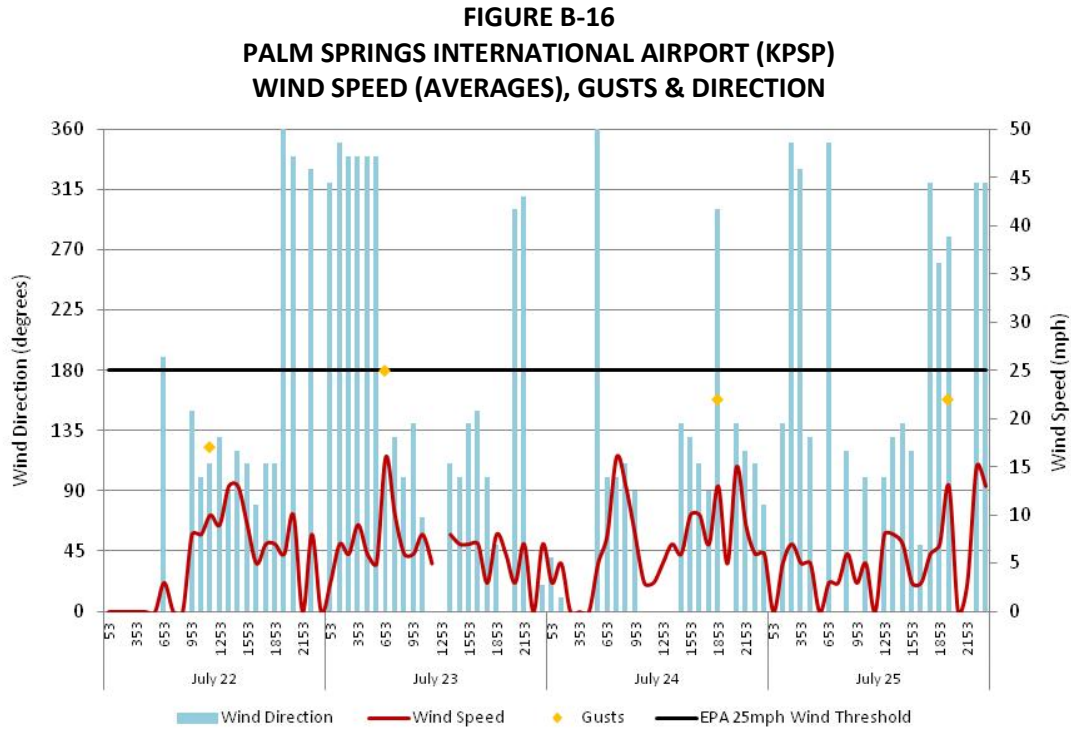


Fig. B-16: Wind data from the NCEI's QCLCD system.

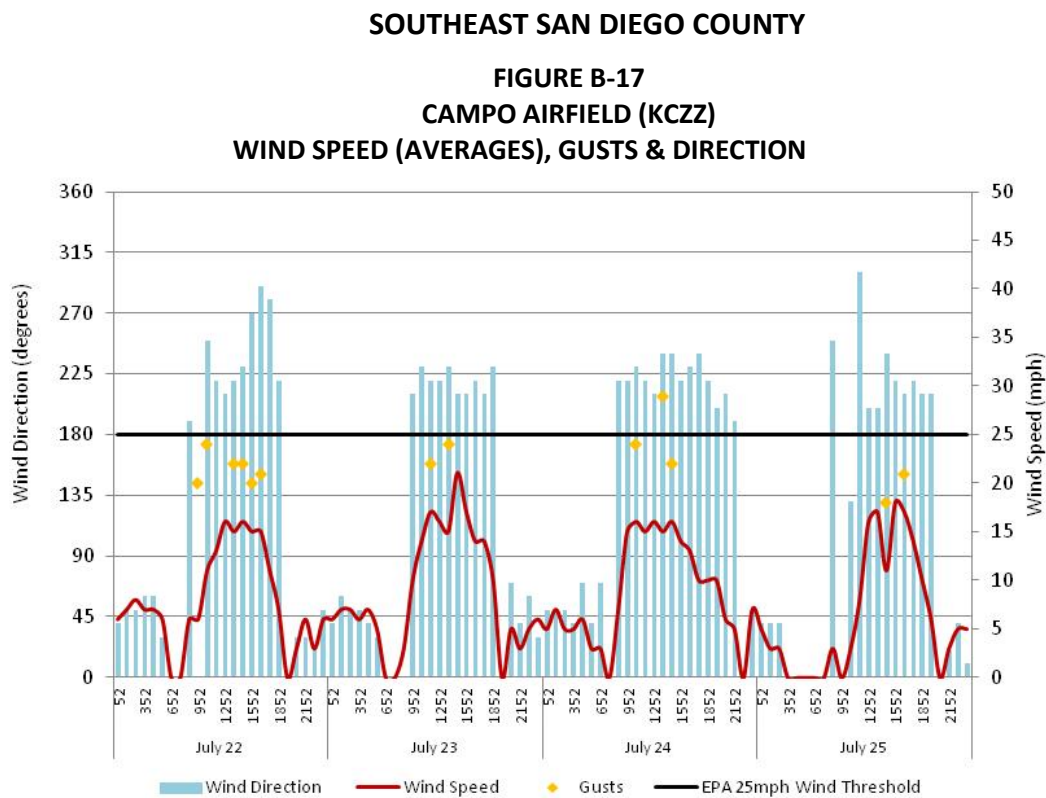


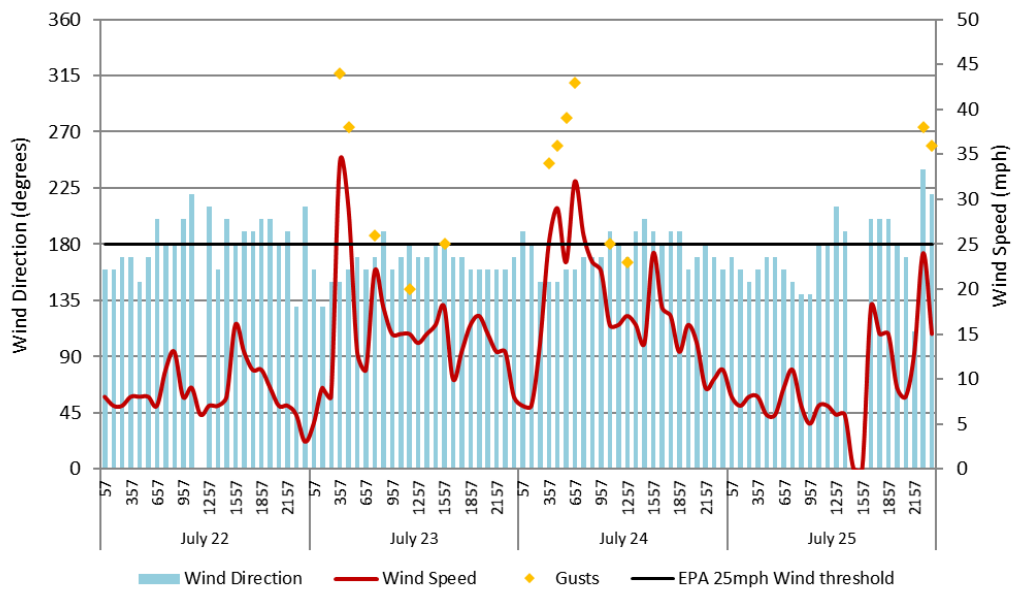
Fig. B-17: Wind data from the NCEI's QCLCD system.

UPSTREAM WIND SITES

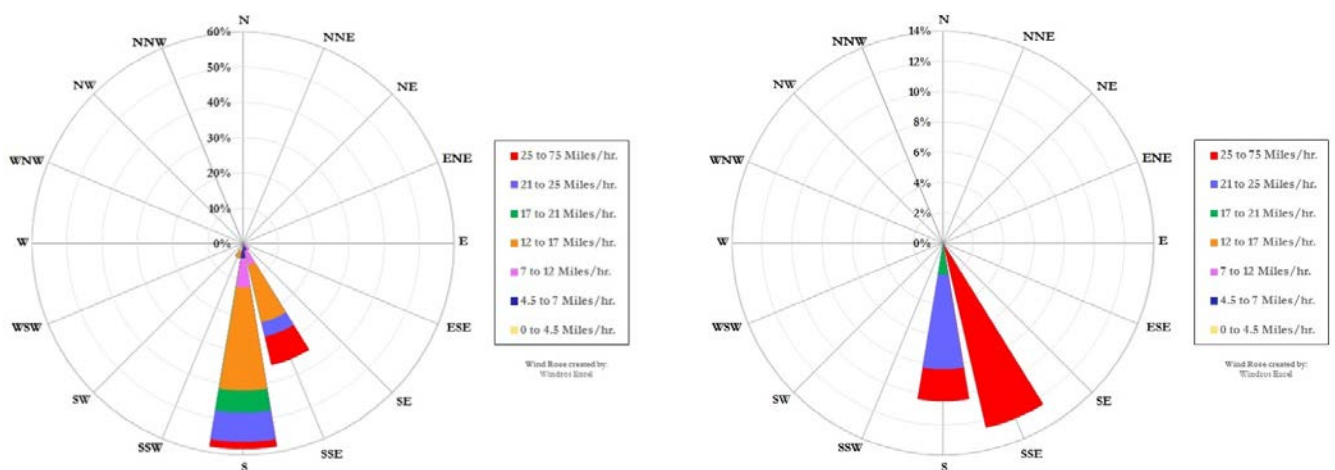
The following sites were upstream from Imperial County during the July 23-24 wind event.

SOUTHWESTERN ARIZONA

FIGURE B-18
YUMA MCAS (KNYL)
WIND SPEED (AVERAGES), GUSTS & DIRECTION



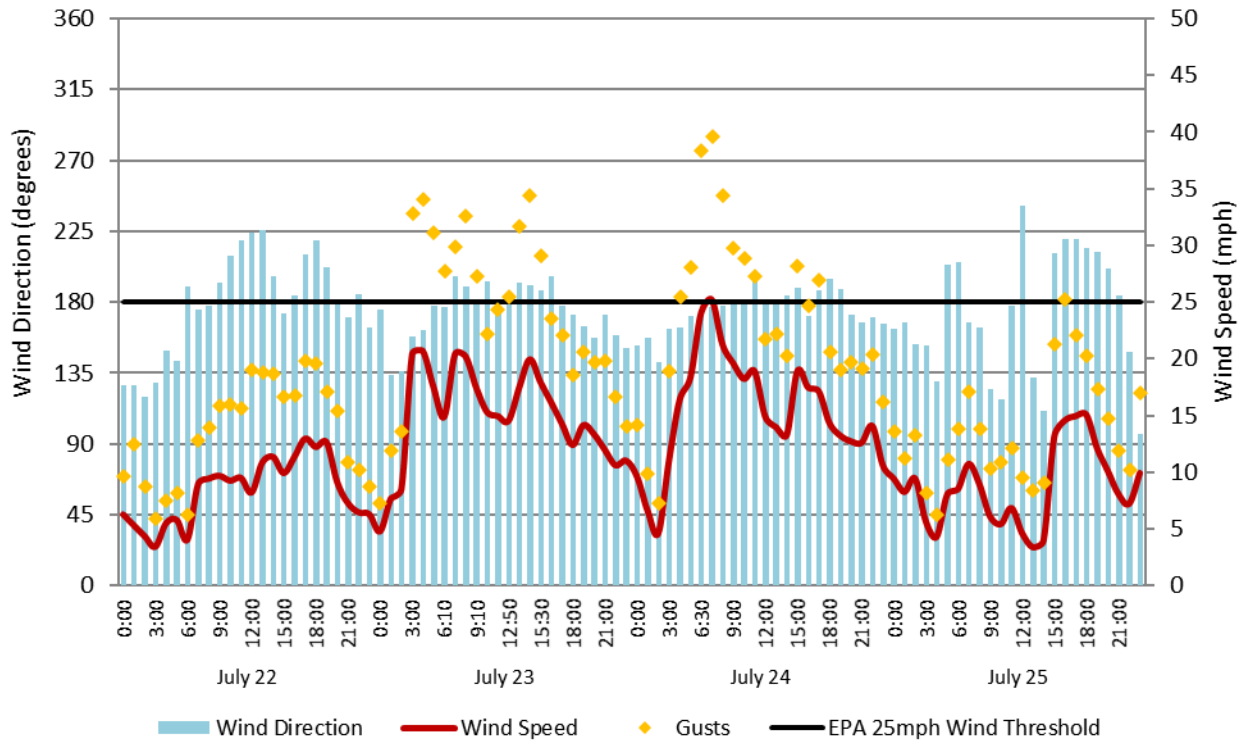
FIGURES B-19 & B-20
YUMA MCAS WIND ROSES – JULY 23 AND JULY 24



Figs. B-18, B-19 & B-20: Yuma MCAS (KNYL) had both winds of 25 mph along with gusts above 40 mph. Wind roses are for winds (left) and gusts (right). Data from the NCEI QCLCD system.

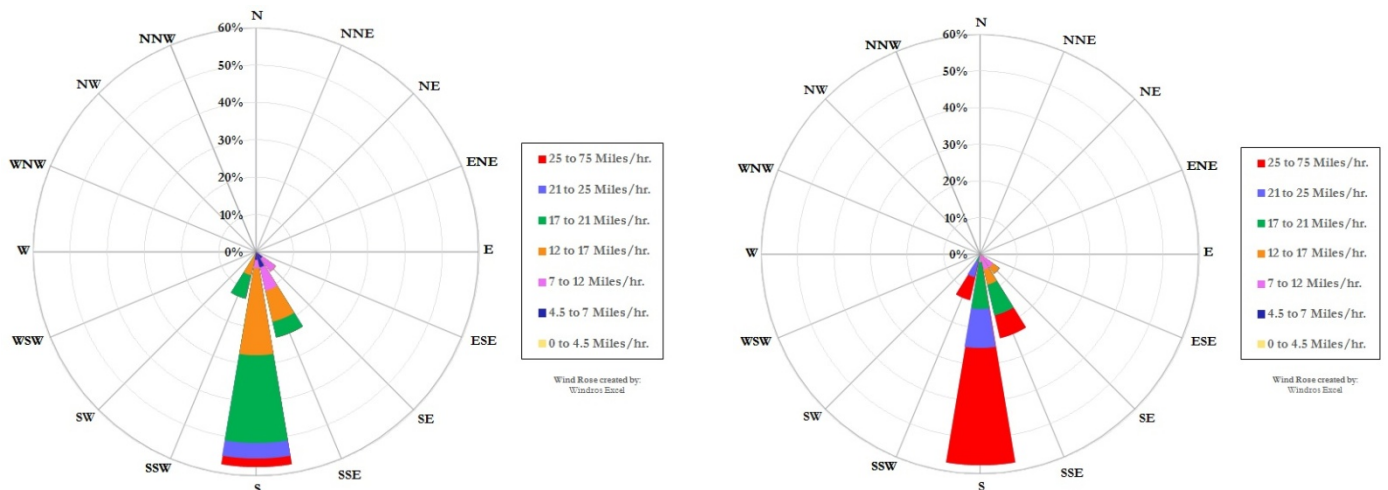
MEXICO

FIGURE B-21

SAN LUIS COLORADO, MEXICO
WIND SPEED (AVERAGES), GUSTS & DIRECTION

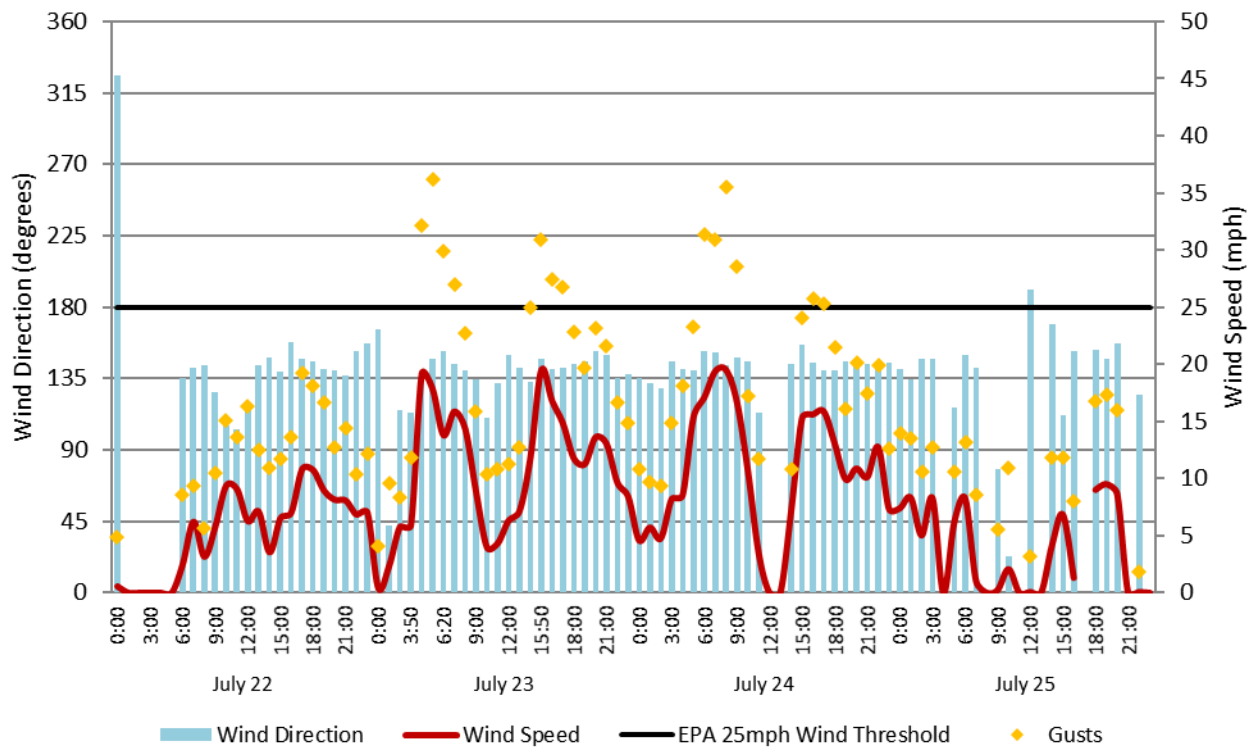
FIGURES B-22 & B-23

SAN LUIS COLORADO, MEXICO WIND ROSES – JULY 23 AND JULY 24

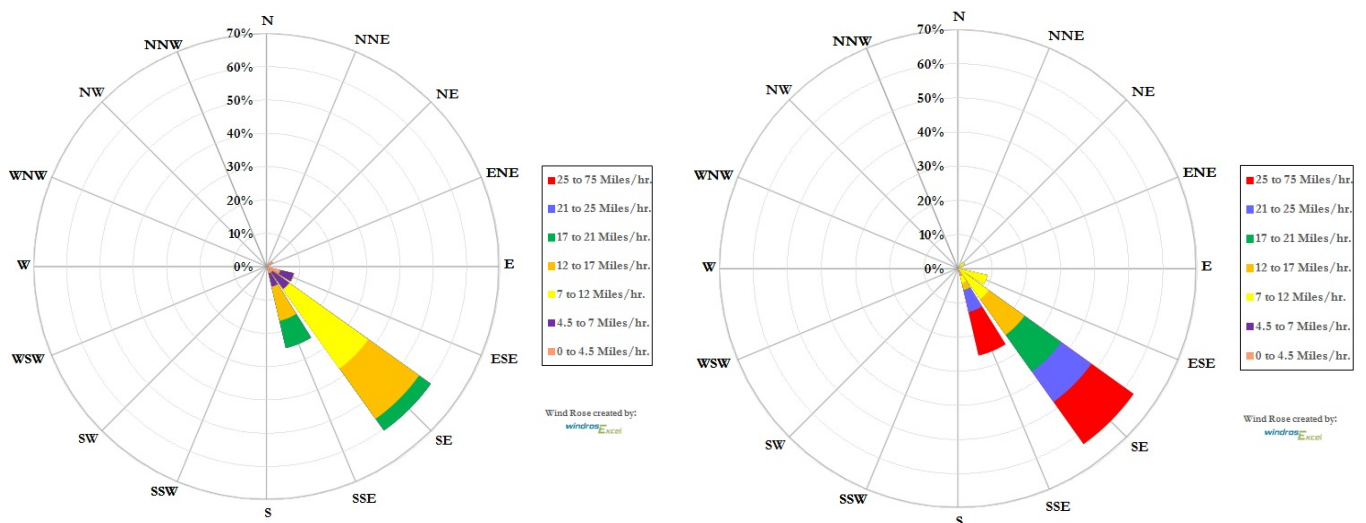


Figs. B-21, B-21 & B-23: San Luis Colorado, Mexico (Station ID: SLRS6) had both winds of 25 mph and gusts above 25 mph. Wind roses are for winds (left) and gusts (right). Data from the University of Utah's MesoWest.

FIGURE B-24
MEXICALI, MEXICO (MXCB1)
WIND SPEED (AVERAGES), GUSTS & DIRECTION

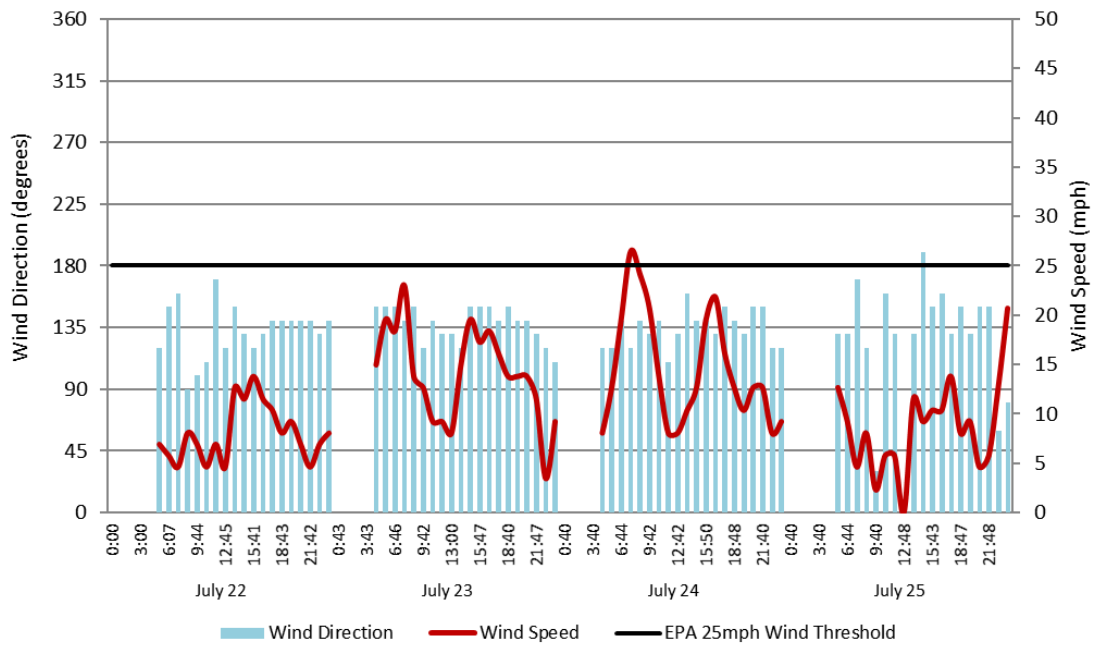


FIGURES B-25 & B-26
MEXICALI, MX WIND ROSES – JULY 23 AND JULY 24

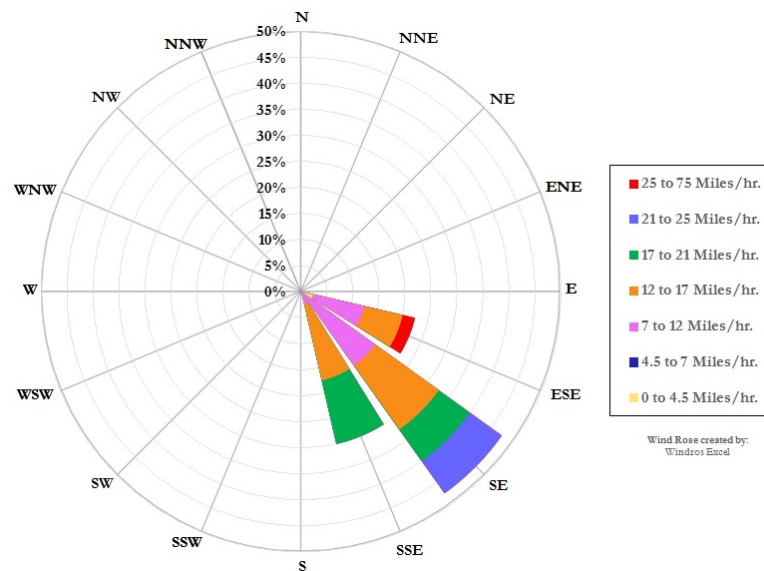


Figs. B-24, B-25 & B-26: Mexicali, Mexico (Station ID: MXCB1) did not have winds of 25 mph but gusts were above 25 mph. Wind roses are for winds (left) and gusts (right). Data from the University of Utah's MesoWest.

FIGURE B-27
MEXICALI, MEXICO INTERNATIONAL AIRPORT (MMML)
WIND SPEED (AVERAGES) & DIRECTION



FIGURES B-28
MEXICALI, MX INTERNATIONAL AIRPORT (MMML) WIND ROSE – JULY 23 AND JULY 24



Figs. B-27 & B-28: Mexicali, Mexico (Station ID MMML) did not have winds of 25 mph but gusts were above 25 mph. Wind rose is for winds. The airport does not report gusts. Data from the University of Utah's MesoWest.

FIGURE B-29 IMPERIAL COUNTY AIRPORT (KIPL) QCLCD – JULY 23

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data, and Information Service
Elev: -58 ft. Lat: 32.8342° N Lon: -115.5786° W
Station: IMPERIAL CO AIRPORT, CA US WBAN:03144

Local Climatological Data
Hourly Observations
July 2016
Generated on 06/14/2017

National Centers for Environmental Information
151 Patton Avenue
Asheville, North Carolina 28801

Date	Time (LST)	Station Type	Sky Conditions	Visi-bility	Weather Type (see documentation) AU AW MW	Dry Bulb Temp		Wet Bulb Temp		Dew Point Temp		Rel Hum %	Wind Speed (MPH)	Wind Dir (Deg)	Wind Gusts (MPH)	Station Press (inHg)	Press. Tend	Net 3-Hr Change (inHg)	Sea Level Press. (inHg)	Report Type	Precip Total (in)	Alti-meter Setting (inHg)
						(F)	(C)	(F)	(C)	(F)	(C)											
23	0053	7	CLR:00	10.00		88	31.1	76	24.7	63	17.2	43	3	010		29.76		+0.00	29.70	FM-15	0.00	29.70
23	0153	7		10.00		87	30.6	77	24.9	70	21.1	57	6	080		29.76			29.70	FM-15	0.00	29.70
23	0253	7	CLR:00	10.00		88	31.1	78	25.4	71	21.7	57	9	120		29.75			29.69	FM-15	0.00	29.69
23	0353	7	CLR:00	10.00		86	30.0	76	24.3	68	20.0	55	8	140		29.76	5	+0.00	29.70	FM-15	0.00	29.70
23	0453	7	CLR:00	10.00		89	31.7	78	25.6	70	21.1	53	21	140		29.81			29.75	FM-15	0.00	29.75
23	0553	7	CLR:00	8.00		92	33.3	81	27.4	75	23.9	58	17	170		29.83			29.77	FM-15	0.00	29.77
23	0653	7	CLR:00	10.00		93	33.9	82	27.8	75	23.9	56	7	180		29.84	1	-0.08	29.78	FM-15	0.00	29.78
23	0753	7	BKN:07 19	6.00	HZ:7 FU:05 HZ:05	96	35.6	84	28.9	75	23.9	51	13	140		29.86			29.80	FM-15	0.00	29.80
23	0853	7	OVC:08 19	3.00	HZ:7 FU:05 HZ:05	97	36.1	85	29.3	75	23.9	49	9	170		29.85			29.79	FM-15	0.00	29.79
23	0953	7	OVC:08 21	5.00	HZ:7 FU:05 HZ:05	100	37.8	87	30.6	74	23.3	43	5	310		29.84	8	+0.01	29.78	FM-15	0.00	29.78
23	1053	7	BKN:07 26 OVC:08 32	7.00		104	40.0	91	32.8	72	22.2	36	3	090		29.82			29.77	FM-15	0.00	29.76
23	1135	7	BKN:07 31	10.00		106	41.1	94	34.4	69	20.6	31	0	000		29.81			FM-16		29.75	
23	1153	7	FEW:02 35	10.00		107	41.7	96	35.5	67	19.4	27	8	110		29.80			29.74	FM-15	0.00	29.74
23	1253	7	FEW:02 31	8.00		112	44.4	102	39.1	68	20.0	25	8	160	17	29.77	8	+0.06	29.72	FM-15	0.00	29.71
23	1353	7	CLR:00	10.00		113	45.0	106	41.4	64	17.8	21	10	110		29.74			29.68	FM-15	0.00	29.68
23	1453	7	CLR:00	10.00		116	46.7	117	47.1	58	14.4	15	17	140		29.71			29.65	FM-15	0.00	29.65
23	1543	7	BKN:07 25	4.00	HZ:7 FU:05 HZ:05	112	44.4	102	39.1	68	20.0	25	24	140		29.70			FM-16		29.64	
23	1553	7	OVC:08 25	5.00	HZ:7 FU:05 HZ:05	112	44.4	104	39.8	66	18.9	23	24	130	31	29.70	6	+0.07	29.64	FM-15	0.00	29.64
23	1653	7	OVC:08 29	6.00	HZ:7 FU:05 HZ:05	109	42.8	100	37.6	65	18.3	24	21	150		29.69			29.63	FM-15	0.00	29.63
23	1753	7	BKN:07 26	7.00		106	41.1	95	35.3	65	18.3	26	17	150		29.68			29.62	FM-15	0.00	29.62
23	1802	7	BKN:07 39	8.00		106	41.1	96	35.5	64	17.8	26	16	130		29.68			FM-16		29.62	
23	1853	7	OVC:08 33	10.00		102	38.9	90	32.3	66	18.9	31	13	130		29.69	5	+0.01	29.63	FM-15	0.00	29.63
23	1953	7	OVC:08 42	10.00		99	37.2	86	30.1	69	20.6	38	16	140		29.71			29.65	FM-15	0.00	29.65
23	2053	7	CLR:00	10.00		97	36.1	85	29.2	67	19.4	37	17	140		29.73			29.67	FM-15	0.00	29.67
23	2153	7	CLR:00	10.00		94	34.4	82	27.7	70	21.1	46	13	130		29.74	1	-0.05	29.68	FM-15	0.00	29.68
23	2253	7	CLR:00	10.00		91	32.8	80	26.9	74	23.3	57	13	130		29.75			29.70	FM-15	0.00	29.69
23	2353	7	CLR:00	10.00		90	32.2	80	26.8	75	23.9	62	14	140		29.75			29.69	FM-15	0.00	29.69

FIGURE B-30 IMPERIAL COUNTY AIRPORT (KIPL) QCLCD – JULY 24

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data, and Information Service
Elev: -58 ft. Lat: 32.8342° N Lon: -115.5786° W
Station: IMPERIAL CO AIRPORT, CA US WBAN:03144

Local Climatological Data
Hourly Observations
July 2016
Generated on 06/14/2017

National Centers for Environmental Information
151 Patton Avenue
Asheville, North Carolina 28801

STATION: IMPERIAL CO AIRPORT, CA US WBAR:0314																						
Date	Time (LST)	Station Type	Sky Conditions	Visi-bility	Weather Type (see documentation)	Dry Bulb Temp		Wet Bulb Temp		Dew Point Temp		Rel Hum %	Wind Speed (MPH)	Wind Dir (Deg)	Wind Gusts (MPH)	Station Press (inHg)	Press. Tend	Net 3-Hr Change (inHg)	Sea Level Press. (inHg)	Report Type	Precip Total (in)	Alti-meter Setting (inHg)
						(F)	(C)	(F)	(C)	(F)	(C)											
					AU AW MW																	
24	0053	7	CLR:00	10.00		89	31.7	80	26.5	75	23.9	63	10	140		29.75	0	-0.01	29.69	FM-15	0.00	29.69
24	0153	7	CLR:00	10.00		88	31.1	80	26.5	76	24.4	68	7	130		29.75			29.69	FM-15	0.00	29.69
24	0253	7	CLR:00	10.00		87	30.6	79	26.3	76	24.4	70	8	130		29.76			29.70	FM-15	0.00	29.70
24	0353	7	CLR:00	10.00		86	30.0	79	26.0	76	24.4	72	6	110		29.77	3	-0.02	29.71	FM-15	0.00	29.71
24	0453	7	CLR:00	10.00		86	30.0	78	25.5	74	23.3	67	11	130		29.81			29.75	FM-15	0.00	29.75
24	0553	7	CLR:00	10.00		87	30.6	79	26.0	75	23.9	67	16	140		29.84			29.78	FM-15	0.00	29.78
24	0653	7	CLR:00	10.00		91	32.8	81	27.1	75	23.9	59	25	140	31	29.87	1	-0.10	29.81	FM-15	0.00	29.81
24	0753	7	SCT:04 18	5.00	HZ:7 FU:05 HZ:05	95	35.0	83	28.2	72	22.2	47	17	160		29.88			29.82	FM-15	0.00	29.82
24	0801	7	BKN:07 18	4.00	HZ:7 FU:05 HZ:05	95	35.0	83	28.2	72	22.2	47	23	150	26	29.88			FM-16		29.82	
24	0832	7	OVC:08 20	2.50	HZ:7 FU:05 HZ:05	99	37.2	87	30.7	64	17.8	32	21	150	28	29.88			FM-16		29.82	
24	0853	7	OVC:08 21	2.50	HZ:7 FU:05 HZ:05	100	37.8	88	31.3	64	17.8	31	17	160		29.88			29.82	FM-15	0.00	29.82
24	0905	7	OVC:08 22	3.00	HZ:7 FU:05 HZ:05	100	37.8	88	31.1	65	18.3	32	16	170		29.88			FM-16		29.82	
24	0953	7	OVC:08 24	6.00	HZ:7 FU:05 HZ:05	100	37.8	87	30.8	68	20.0	35	6	VRB		29.87	8	+0.00	29.81	FM-15	0.00	29.81
24	1044	7	OVC:08 30	10.00		103	39.4	91	32.6	68	20.0	32	8	300		29.85			FM-16		29.79	
24	1053	7	OVC:08 32	10.00		102	38.9	89	31.9	69	20.6	35	5	240		29.85			29.79	FM-15	0.00	29.79
24	1153	7	FEW:02 34	10.00		104	40.0	92	33.1	69	20.6	32	5	300		29.83			29.77	FM-15	0.00	29.77
24	1253	7	FEW:02 38	10.00		106	41.1	94	34.6	68	20.0	29	0	000		29.81	7	+0.06	29.75	FM-15	0.00	29.75
24	1353	7	BKN:07 32	10.00		108	42.2	96	35.8	69	20.6	29	5	VRB		29.80			29.74	FM-15	0.00	29.74
24	1453	7	SCT:04 36	10.00		109	42.8	99	37.0	67	19.4	26	7	120		29.78			29.72	FM-15	0.00	29.72
24	1551	6	BKN:07 29 BKN:07 39	7.00		109	43.0	98	36.8	68	20.0	27	22	140		29.77			FM-16		29.71	
24	1553	7	BKN:07 29 BKN:07 39	7.00		109	42.8	98	36.8	68	20.0	27	21	140		29.77	6	+0.04	29.71	FM-15	0.00	29.71
24	1637	7	OVC:08 32	10.00		103	39.4	91	32.6	68	20.0	32	24	140		29.76			FM-16		29.70	
24	1653	7	OVC:08 38	10.00		102	38.9	90	32.1	67	19.4	32	24	140		29.77			29.71	FM-15	0.00	29.71
24	1753	7	CLR:00	10.00		100	37.8	87	30.7	69	20.6	37	21	140	28	29.77			29.71	FM-15	0.00	29.71
24	1853	7	OVC:08 34	10.00		97	36.1	84	29.1	68	20.0	39	14	150		29.77	3	-0.01	29.72	FM-15	0.00	29.71
24	1953	7	SCT:04 46	10.00		95	35.0	83	28.1	69	20.6	43	13	150		29.79			29.73	FM-15	0.00	29.73
24	2053	7	CLR:00	10.00		93	33.9	82	27.6	74	23.3	54	15	130		29.81			29.75	FM-15	0.00	29.75
24	2153	7	CLR:00	10.00		91	32.8	81	27.3	76	24.4	61	14	140		29.81	1	-0.04	29.75	FM-15	0.00	29.75
24	2253	7	CLR:00	10.00		90	32.2	80	26.8	75	23.9	62	13	150		29.82			29.76	FM-15	0.00	29.76
24	2353	7	CLR:00	10.00		88	31.1	80	26.5	76	24.4	68	10	120		29.83			29.77	FM-15	0.00	29.77

FIGURE B-31 EL CENTRO NAF (KNJK) QCLCD – JULY 23

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data, and Information Service
Elev: -42 ft. Lat: 32.8167° N Lon: -115.6833° W
Station: EL CENTRO NAF, CA US WBAN:23199

Local Climatological Data Hourly Observations July 2016 Generated on 06/14/2017

National Centers for Environmental Information
151 Patton Avenue
Asheville, North Carolina 28801

Date	Time (LST)	Station Type	Sky Conditions	Visi- bility	Weather Type (see documentation) AU AW MW	Dry Bulb Temp		Wet Bulb Temp		Dew Point Temp		Rel Hum %	Wind Speed (MPH)	Wind Dir (Deg)	Wind Gusts (MPH)	Station Press (inHg)	Press. Tend	Net 3-Hr Change (inHg)	Sea Level Press. (inHg)	Report Type	Precip Total (in)	Alti-meter Setting (inHg)
						(F)	(C)	(F)	(C)	(F)	(C)											
23	0056	7	CLR-00	7.00		87	30.6	76	24.2	58	14.4	37	0	000		29.76		+0.01	29.76	FM-15	0.00	29.72
23	0156	7	CLR-00	10.00		83	28.3	73	22.5	63	17.2	51	8	360		29.76			29.76	FM-15	0.00	29.72
23	0256	7	CLR-00	10.00		83	28.3	74	23.1	67	19.4	59	7	090		29.75			29.75	FM-15	0.00	29.71
23	0356	7	CLR-00	10.00		82	27.8	73	23.0	68	20.0	63	3	120		29.76	3	-0.00	29.77	FM-15	0.00	29.72
23	0456	7	CLR-00	6.00	HZ:7 DU:5 SA:6 IFU:05 IZH:05 DU:07	87	30.6	77	25.1	71	21.7	59	21	140		29.81			29.81	FM-15	T	29.77
23	0556	7	CLR-00	6.00	HZ:7 IFU:05 IZH:05	90	32.2	79	26.3	72	22.2	56	16	170		29.83			29.83	FM-15	0.00	29.79
23	0656	7	CLR-00	8.00		93	33.9	81	27.2	70	21.1	47	10	170		29.84	1	-0.08	29.85	FM-15	0.00	29.80
23	0756	7	CLR-00	8.00		94	34.4	82	27.8	72	22.2	49	7	110		29.85			29.85	FM-15	0.00	29.81
23	0856	7	SCT:04 19	3.00	HZ:7 IFU:05 IZH:05	97	36.1	84	29.1	71	21.7	43	7	110		29.85			29.85	FM-15	0.00	29.81
23	0956	7	CLR-00	6.00	HZ:7 IFU:05 IZH:05	99	37.2	86	30.1	70	21.1	39	6	VRB		29.84	8	+0.00	29.84	FM-15	0.00	29.80
23	1056	7	SCT:04 20	6.00	HZ:7 IFU:05 IZH:05	101	38.3	88	31.4	68	20.0	34	3	VRB		29.82			29.83	FM-15	0.00	29.78
23	1156	7	SCT:04 24	7.00		105	40.6	95	35.0	63	17.2	25	5	VRB		29.80			29.81	FM-15	0.00	29.76
23	1256	7	SCT:04 30	7.00		108	42.2	99	37.4	63	17.2	23	0	000		29.77			29.78	FM-15	0.00	29.73
23	1356	7	SCT:04 20	10.00		110	43.3	104	40.2	60	15.6	20	7	VRB		29.74			29.74	FM-15	0.00	29.70
23	1456	7	CLR-00	10.00		112	44.4	111	43.9	56	13.3	16	9	140		29.71			29.72	FM-15	0.00	29.67
23	1554	6	BKN:07 28	5.00	-RA:02 [RA:61]	111	44.0	104	39.9	63	17.0	21	24	140		29.70				FM-16		29.66
23	1556	7	BKN:07 28	5.00	-RA:02 [RA:61]	111	43.9	105	40.3	62	16.7	21	24	140		29.70	6	+0.08	29.70	FM-15	T	29.66
23	1656	7	BKN:07 24	7.00		108	42.2	100	38.0	61	16.1	22	17	140		29.68			29.69	FM-15	T	29.64
23	1744	7	OVC:08 14	3.00	HZ:7 IFU:05 IZH:05	105	40.6	95	35.0	63	17.2	25	15	140		29.68				FM-16		29.64
23	1754	6	OVC:08 20	4.00	HZ:7 IZH:05	106	41.0	96	35.8	63	17.0	25	15	140		29.68				FM-16		29.64
23	1756	7	OVC:08 20	4.00	HZ:7 IFU:05 IZH:05	105	40.6	95	35.0	63	17.2	25	13	130		29.68			29.68	FM-15	0.00	29.64
23	1815	7	OVC:08 32	6.00	HZ:7 IFU:05 IZH:05	104	40.0	94	34.5	62	16.7	25	11	130		29.68				FM-16		29.64
23	1856	7	OVC:08 30	9.00		100	37.8	89	31.6	62	16.7	29	11	140		29.68	5	+0.01	29.69	FM-15	0.00	29.64
23	1956	7	SCT:04 37	10.00		96	35.6	84	28.7	66	18.9	37	14	140		29.71			29.71	FM-15	0.00	29.67
23	2056	7	CLR-00	10.00		93	33.9	81	27.2	69	20.6	46	14	150		29.73			29.74	FM-15	0.00	29.69
23	2156	7	CLR-00	10.00		92	33.3	80	26.6	67	19.4	44	14	140		29.74	1	-0.05	29.74	FM-15	0.00	29.70
23	2256	7	CLR-00	10.00		90	32.2	79	26.0	70	21.1	52	8	140		29.75			29.75	FM-15	0.00	29.71
23	2356	7	CLR-00	10.00		88	31.1	79	26.0	74	23.3	63	10	140		29.75			29.75	FM-15	0.00	29.71

FIGURE B-32 EL CENTRO NAF (KNJK) QCLCD – JULY 24

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data, and Information Service
Elev: -42 ft. Lat: 32.8167° N Lon: -115.6833° W
Station: EL CENTRO NAF, CA US WBAN:23199

Local Climatological Data Hourly Observations July 2016 Generated on 06/14/2017

National Centers for Environmental Information
151 Patton Avenue
Asheville, North Carolina 28801

Date	Time (LST)	Station Type	Sky Conditions	Visi- bility	Weather Type (see documentation) AU AW MW	Dry Bulb Temp		Wet Bulb Temp		Dew Point Temp		Rel Hum %	Wind Speed (MPH)	Wind Dir (Deg)	Wind Gusts (MPH)	Station Press (inHg)	Press. Tend	Net 3-Hr Change (inHg)	Sea Level Press. (inHg)	Report Type	Precip Total (in)	Alti-meter Setting (inHg)
						(F)	(C)	(F)	(C)	(F)	(C)											
24	0056	7	CLR-00	10.00		87	30.6	78	25.5	73	22.8	63	6	130		29.74	0	-0.01	29.75	FM-15	0.00	29.70
24	0156	7	CLR-00	10.00		85	29.4	76	24.7	72	22.2	65	3	040		29.74			29.75	FM-15	0.00	29.70
24	0256	7	CLR-00	10.00		83	28.3	76	24.2	72	22.2	70	0	000		29.76			29.76	FM-15	0.00	29.72
24	0356	7	CLR-00	10.00		83	28.3	77	24.8	74	23.3	74	3	100		29.77	3	-0.02	29.78	FM-15	0.00	29.73
24	0456	7	CLR-00	10.00		82	27.8	76	24.2	73	22.8	74	7	110		29.81			29.81	FM-15	0.00	29.77
24	0556	7	CLR-00	10.00		86	30.0	78	25.5	74	23.3	67	13	150		29.84			29.84	FM-15	0.00	29.80
24	0656	7	CLR-00	10.00	-RA:02 [RA:61]	89	31.7	79	26.1	73	22.8	59	18	140		29.87	1	-0.10	29.88	FM-15	T	29.83
24	0756	7	CLR-00	10.00		93	33.9	81	27.2	70	21.1	47	16	150		29.88			29.88	FM-15	T	29.84
24	0844	7	BKN:07 18	6.00	HZ:7 IFU:05 IZH:05	97	36.1	85	29.3	65	18.3	35	14	150		29.88				FM-16	T	29.84
24	0854	6	SCT:04 20	9.00		97	36.0	85	29.2	66	19.0	37	9	180		29.88				FM-16		29.84
24	0856	7	SCT:04 19	9.00		97	36.1	85	29.2	66	18.9	36	10	190		29.88			29.88	FM-15	T	29.84
24	0956	7	CLR-00	10.00		98	36.7	86	29.7	67	19.4	36	5	210		29.87	8	+0.00	29.87	FM-15	0.00	29.83
24	1056	7	CLR-00	10.00		102	38.9	90	32.4	65	18.3	30	7	110		29.85			29.85	FM-15	0.00	29.81
24	1156	7	CLR-00	10.00		103	39.4	92	33.3	64	17.8	28	3	VRB		29.83			29.83	FM-15	0.00	29.79
24	1256	7	CLR-00	10.00		105	40.6	95	35.0	63	17.2	25	0	000		29.81	7	+0.06	29.81	FM-15	0.00	29.77
24	1356	7	CLR-00	10.00		106	41.1	96	35.5	64	17.8	26	8	180		29.80			29.81	FM-15	0.00	29.76
24	1456	6	CLR-00	10.00		106	41.1	97	36.1	62	16.7	24				29.78			29.78	FM-15	0.00	29.74
24	1556	7	CLR-00	9.00		108	42.2	100	38.0	61	16.1	22	10	140	20	29.76	8	+0.05	29.76	FM-15	0.00	29.72
24	1656	7	CLR-00	10.00	-RA:02 [RA:61]	101	38.3	89	31.9	64	17.8	30	20	140		29.76			29.76	FM-15	T	29.72
24	1756	7	OVC:08 33	10.00	-RA:02 [RA:61]	98	36.7	86	29.7	67	19.4	36	18	150		29.76			29.77	FM-15	T	29.72
24	1856	7	BKN:07 38	10.00		93	33.9	81	27.1	66	18.9	41	15	140		29.77	3	-0.01	29.77	FM-15	T	29.73
24	1956	7	CLR-00	10.00		93	33.9	81	27.1	67	19.4	42	14	140		29.78			29.79	FM-15	0.00	29.74
24	2056	7	CLR-00	10.00		92	33.3	80	26.8	70	21.1	49	15	130		29.80			29.81	FM-15	0.00	29.76
24	2156	7	CLR-00	10.00		89	31.7	79	26.3	74	23.3	61	15	150		29.81	1	-0.04	29.81	FM-15	0.00	29.77
24	2256	7	CLR-00	10.00		88	31.1	79	26.0	74	23.3	63	10	140		29.82			29.82	FM-15	0.00	29.78
24	2356	7	CLR-00	10.00		84	28.9	77	25.0	74	23.3	72	5	VRB		29.83			29.83	FM-15	0.00	29.79

FIGURE B-33

YUMA, AZ MCAS (KNYL) QCLCD – JULY 23

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data, and Information Service
Elev: 213 ft. Lat: 32.6500° N Lon: -114.6167° W
Station: YUMA MCAS, AZ US WBAN:03145

Local Climatological Data
Hourly Observations
July 2016
Generated on 06/14/2017

National Centers for Environmental Information
151 Patton Avenue
Asheville, North Carolina 28801

Date	Time (LST)	Station Type	Sky Conditions	Visi- bility	Weather Type (see documentation)	Dry Bulb Temp		Wet Bulb Temp		Dew Point Temp		Rel Hum %	Wind Speed (MPH)	Wind Dir (Deg)	Wind Gusts (MPH)	Station Press (inHg)	Press. Tend	Net 3-Hr Change (inHg)	Sea Level Press. (inHg)	Report Type	Precip Total (in)	Alti- meter Setting (inHg)
					AU AW MW	(F)	(C)	(F)	(C)	(F)	(C)											
23	0057	6	CLR:00	10.00		94	34.4	83	28.2	59	15.0	31	3	210		29.52			29.74	FM-15	0.00	29.75
23	0157	6	CLR:00	10.00		92	33.3	80	26.7	63	17.2	38	5	160		29.52	8	+0.00	29.73	FM-15	0.00	29.75
23	0257	6	CLR:00	10.00		92	33.3	81	27.2	57	13.9	31	9	130		29.50			29.72	FM-15	0.00	29.73
23	0357	6	CLR:00	10.00		91	32.8	80	26.7	56	13.3	31	8	150		29.49			29.71	FM-15	0.00	29.72
23	0439	6	SCT:04 4	10.00		91	32.8	79	26.4	59	15.0	34	31	150	38	29.53				FM-16		29.76
23	0449	6	BKN:07 5	10.00		90	32.2	78	25.7	67	19.4	47	33	150	44	29.53				FM-16		29.76
23	0457	6	BKN:07 5	10.00		89	31.7	78	25.4	68	20.0	50	34	150	41	29.54	3	-0.03	29.76	FM-15	0.00	29.77
23	0517	6	SCT:04 5	10.00		89	31.7	78	25.6	70	21.1	53	29	160	38	29.54				FM-16		29.77
23	0557	6	CLR:00	10.00		89	31.7	79	26.1	73	22.8	59	25	170	33	29.56			29.78	FM-15	0.00	29.79
23	0657	6	CLR:00	10.00		88	31.1	78	25.6	72	22.2	59	13	170		29.59			29.81	FM-15	0.00	29.82
23	0755	6	BKN:07 18	10.00		90	32.0	79	26.0	70	21.0	52	13	160		29.61				FM-16		29.84
23	0757	6	BKN:07 18	10.00		90	32.2	79	25.9	69	20.6	50	11	160		29.61	1	-0.06	29.82	FM-15	0.00	29.84
23	0855	6	SCT:04 18	10.00		97	36.0	85	29.5	63	17.0	32	22	170	26	29.60				FM-16		29.83
23	0857	6	SCT:04 18	10.00		96	35.6	84	28.9	63	17.2	34	22	180	26	29.60			29.82	FM-15	0.00	29.83
23	0957	6	CLR:00	10.00		99	37.2	87	30.5	65	18.3	33	18	190		29.60			29.82	FM-15	0.00	29.83
23	1057	6	CLR:00	10.00		102	38.9	91	32.6	64	17.8	29	15	160		29.59	8	+0.02	29.80	FM-15	0.00	29.82
23	1157	6	CLR:00	10.00		104	40.0	93	34.0	64	17.8	27	15	170		29.57			29.79	FM-15	0.00	29.80
23	1257	6	CLR:00	10.00		108	42.2	100	38.0	61	16.1	22	15	180	20	29.55			29.77	FM-15	0.00	29.78
23	1357	6	CLR:00	10.00		110	43.3	104	40.2	60	15.6	20	14	170		29.53	8	+0.06	29.74	FM-15	0.00	29.76
23	1457	6	CLR:00	10.00		111	43.9	107	41.9	58	14.4	18	15	170		29.50			29.72	FM-15	0.00	29.73
23	1557	6	CLR:00	10.00		109	42.8	103	39.6	59	15.0	20	16	180		29.49			29.70	FM-15	0.00	29.72
23	1657	6	CLR:00	10.00		108	42.2	101	38.4	60	15.6	21	18	180	25	29.47	6	+0.05	29.69	FM-15	0.00	29.70
23	1757	6	CLR:00	10.00		105	40.6	96	35.5	61	16.1	24	10	170		29.45			29.67	FM-15	0.00	29.68
23	1857	6	CLR:00	10.00		103	39.4	92	33.5	63	17.2	27	13	170		29.45			29.67	FM-15	0.00	29.68
23	1957	6	CLR:00	10.00		98	36.7	86	29.8	66	18.9	35	16	160		29.45	5	+0.02	29.67	FM-15	0.00	29.68
23	2057	6	CLR:00	10.00		94	34.4	82	27.6	65	18.3	38	17	160		29.47			29.68	FM-15	0.00	29.70
23	2157	6	CLR:00	10.00		92	33.3	80	26.6	65	18.3	41	15	160		29.48			29.70	FM-15	0.00	29.71
23	2257	6	CLR:00	10.00		90	32.2	78	25.7	67	19.4	47	13	160		29.49	1	-0.04	29.71	FM-15	0.00	29.72
23	2357	6	CLR:00	10.00		89	31.7	78	25.3	67	19.4	48	13	160		29.50			29.71	FM-15	0.00	29.73

FIGURE B-34

YUMA, AZ MCAS (KNYL) QCLCD – JULY 24

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data, and Information Service
Elev: 213 ft. Lat: 32.6500° N Lon: -114.6167° W
Station: YUMA MCAS, AZ US WBAN:03145

Local Climatological Data
Hourly Observations
July 2016
Generated on 06/14/2017

National Centers for Environmental Information
151 Patton Avenue
Asheville, North Carolina 28801

Date	Time (LST)	Station Type	Sky Conditions	Visi- bility	Weather Type (see documentation)	Dry Bulb Temp		Wet Bulb Temp		Dew Point Temp		Rel Hum %	Wind Speed (MPH)	Wind Dir (Deg)	Wind Gusts (MPH)	Station Press (inHg)	Press. Tend	Net 3-Hr Change (inHg)	Sea Level Press. (inHg)	Report Type	Precip Total (in)	Alti- meter Setting (inHg)
					AU AW MW	(F)	(C)	(F)	(C)	(F)	(C)											
24	0057	6	CLR:00	10.00		89	31.7	78	25.3	67	19.4	48	8	170		29.50			29.72	FM-15	0.00	29.73
24	0157	6	CLR:00	10.00		89	31.7	77	25.2	66	18.9	47	7	190		29.50	0	-0.01	29.72	FM-15	0.00	29.73
24	0257	6	CLR:00	10.00		88	31.1	77	24.9	67	19.4	50	7	180		29.50			29.71	FM-15	0.00	29.73
24	0357	6	CLR:00	10.00		88	31.1	77	24.9	67	19.4	50	14	150		29.50			29.72	FM-15	0.00	29.73
24	0457	6	CLR:00	10.00		87	30.6	77	24.9	70	21.1	57	25	150	34	29.53	3	-0.03	29.75	FM-15	0.00	29.76
24	0507	6	SCT:04 9	10.00		87	30.6	77	25.1	71	21.7	59	29	150	36	29.53				FM-16		29.76
24	0519	6	BKN:07 9	10.00		86	30.0	77	25.2	73	22.8	65	29	150	36	29.54				FM-16		29.77
24	0557	6	FEW:02 9	10.00		86	30.0	78	25.5	74	23.3	67	24	160	32	29.56			29.77	FM-15	0.00	29.79
24	0657	6	SCT:04 11	10.00		88	31.1	78	25.6	72	22.2	59	23	160	39	29.60			29.81	FM-15	0.00	29.83
24	0711	6	BKN:07 13	10.00		89	31.7	79	26.1	73	22.8	59	26	160	43	29.61				FM-16		29.84
24	0723	6	BKN:07 15	10.00		89	31.7	79	26.1	73	22.8	59	30	160	36	29.61				FM-16		29.84
24	0757	6	BKN:07 15	10.00		91	32.8	80	26.6	72	22.2	54	32	160	39	29.62	3	-0.09	29.84	FM-15	0.00	29.85
24	0857	6	BKN:07 18	10.00		94	34.4	82	27.6	69	20.6	44	26	170		29.63			29.85	FM-15	0.00	29.86
24	0926	6	SCT:04 23	10.00		95	35.0	83	28.1	68	20.0	41	23	170		29.63				FM-16		29.86
24	0957	6	CLR:00	10.00		97	36.1	85	29.2	66	18.9	36	23	170		29.63			29.85	FM-15	0.00	29.86
24	1057	6	CLR:00	10.00		101	38.3	90	32.1	63	17.2	29	22	170		29.62	8	+0.00	29.83	FM-15	0.00	29.85
24	1157	6	CLR:00	10.00		103	39.4	93	33.8	62	16.7	26	16	190	25	29.60			29.82	FM-15	0.00	29.83
24	1257	6	CLR:00	10.00		105	40.6	95	35.3	62	16.7	25	16	180		29.58			29.80	FM-15	0.00	29.81
24	1357	6	CLR:00	10.00		108	42.2	101	38.4	60	15.6	21	17	170	23	29.56	8	+0.06	29.78	FM-15	0.00	29.79
24	1457	6	CLR:00	10.00		107	41.7	100	37.9	59	15.0	21	16	190		29.55			29.76	FM-15	0.00	29.78
24	1557	6	CLR:00	10.00		106	41.1	97	36.1	62	16.7	24	14	200		29.53			29.75	FM-15	0.00	29.76
24	1657	6	CLR:00	10.00		102	38.9	90	32.1	67	19.4	32	24	190		29.53	5	+0.03	29.75	FM-15	0.00	29.76
24	1757	6	CLR:00	10.00		100	37.8	89	31.4	63	17.2	30	18	180		29.53			29.75	FM-15	0.00	29.76
24	1857	6	CLR:00	10.00		97	36.1	85	29.3	65	18.3	35	17	190		29.53			29.75	FM-15	0.00	29.76
24	1957	6	CLR:00	10.00		93	33.9	81	27.1	66	18.9	41	13	190		29.54	3	-0.01	29.76	FM-15	0.00	29.77
24	2057	6	CLR:00	10.00		92	33.3	80	26.7	68	20.0	46	16	160		29.56			29.78	FM-15	0.00	29.79
24	2157	6	CLR:00	10.00		90	32.2	79	26.0	70	21.1	52	14	170		29.56			29.78	FM-15	0.00	29.79
24	2257	6	CLR:00	10.00		89	31.7	78	25.5	69	20.6	52	9	180		29.57	1	-0.03	29.78	FM-15	0.00	29.80
24	2357	6	CLR:00	10.00		88	31.1	77	25.0	68	20.0	52	10	170		29.57			29.78	FM-15	0.00	29.80